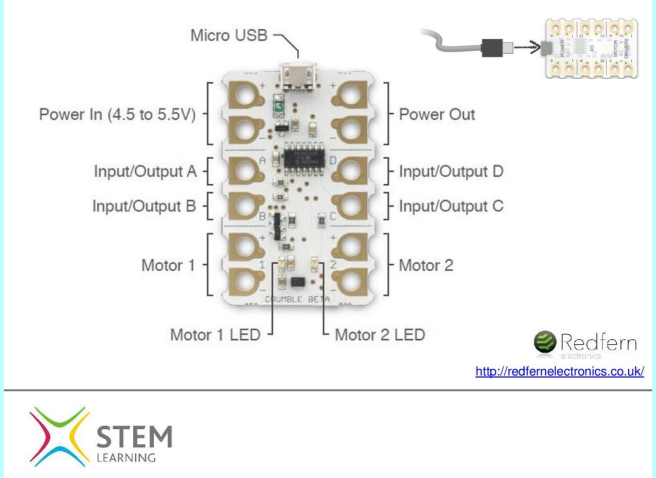
Year 6: Design Technology

Can we make an alarm for a toy vehicle?





STEM LEARNING

Let's recap our DT learning from the Autumn term!

How do we make a circuit? What must it have?
When is a circuit not complete?
What is a Crumble Controller? How does it work?



we do

Design brief

Design and make an alarm that is suited to a type of vehicle of your choice.



Design criteria

It will need to:

- Meet the needs of the vehicle user.
- Use at least one motion/pressure sensor.
- Be hidden from view.

we do

talk

Vehicle alarm systems



How could an alarm help you remember to attach your seat belt?



How could switches help you automatically turn your lights on or off?



What could be triggered when you open your boot?



What warning lights might you have on your dashboard?







Can you think of a way a sensor might help you use your head lights, or warn you of a puncture?

I do

What type of alarms might this vehicle's user need?



we do

What type of alarms might this vehicle's user need?





you do

You have 10 minutes to complete the sheet with your partner.

Investigating car alarms

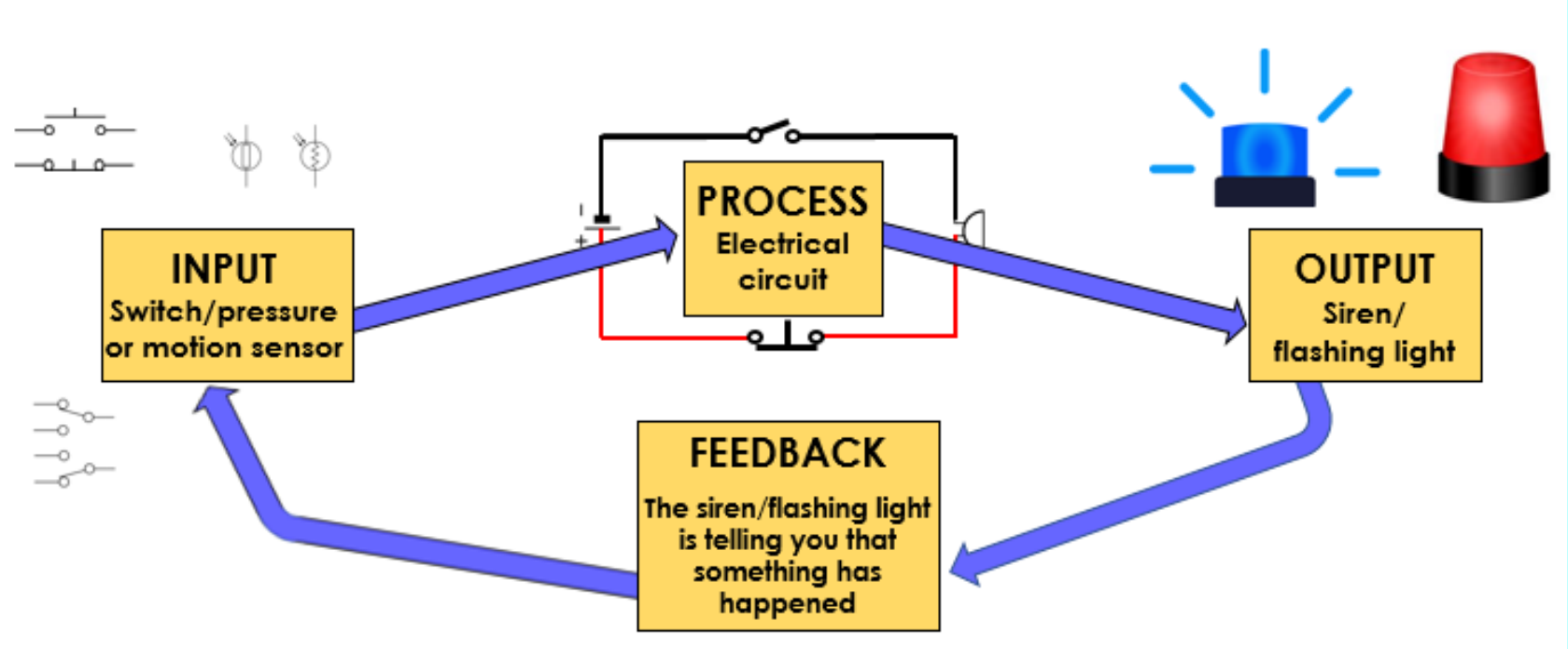
Think about how different types of cars might be alarmed.

- Will they have door and boot alarms to protect them?
- Will they have sirens and flashing lights as a warning to other drivers and pedestrians?
- Will they have alarms as a safety system – to warn the driver that passengers have not attached their seat belts, that the vehicle is overloaded or that it is tipping or leaning dangerously?

Car	How might it be alarmed?
 Off road vehicle	
 Tipper Truck	
 Sports Car	
 Minibus	

we do

What is an alarm system?

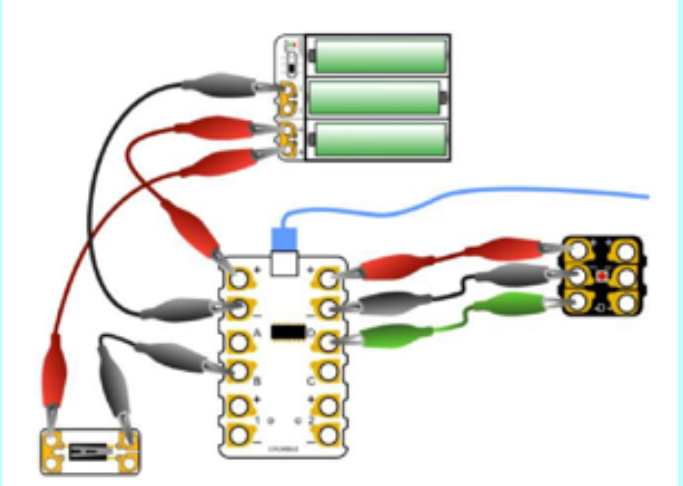


we do

We are going to use the Crumble to create our alarms. We will be working in groups of 3 or 4.

Your alarm will be activated by a push switch.

Your alarm could be a buzzer or a flashing light (as a warning).



we do



Find a group to work with.

What type of alarm will you design for your vehicle?

Will it buzz when the door is open?

Will the lights flash when the door opens?

Will it alert you when the boot is opened?

Remember something will need to push the switch.

I
do

A step-by-step plan for making my vehicle alarm system
Design Specification. What does your alarm need to do? My alarm will alert the driver to.....when the.....

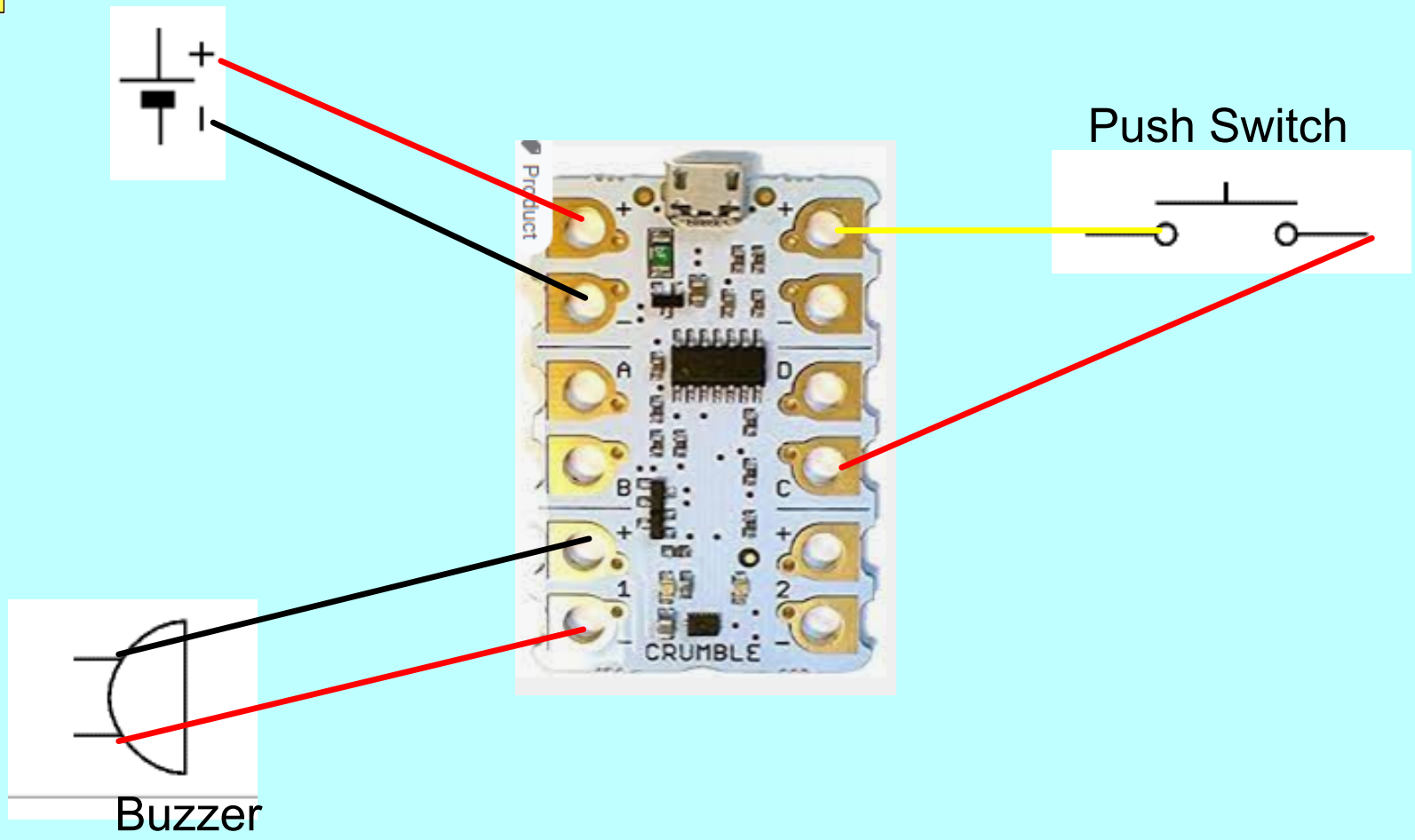
you do

Complete for your group on the sheet.

A step-by-step plan for making my vehicle alarm system
Design Specification. What does your alarm need to do?

I do

Complete the electrical circuit diagram below for your alarm system.



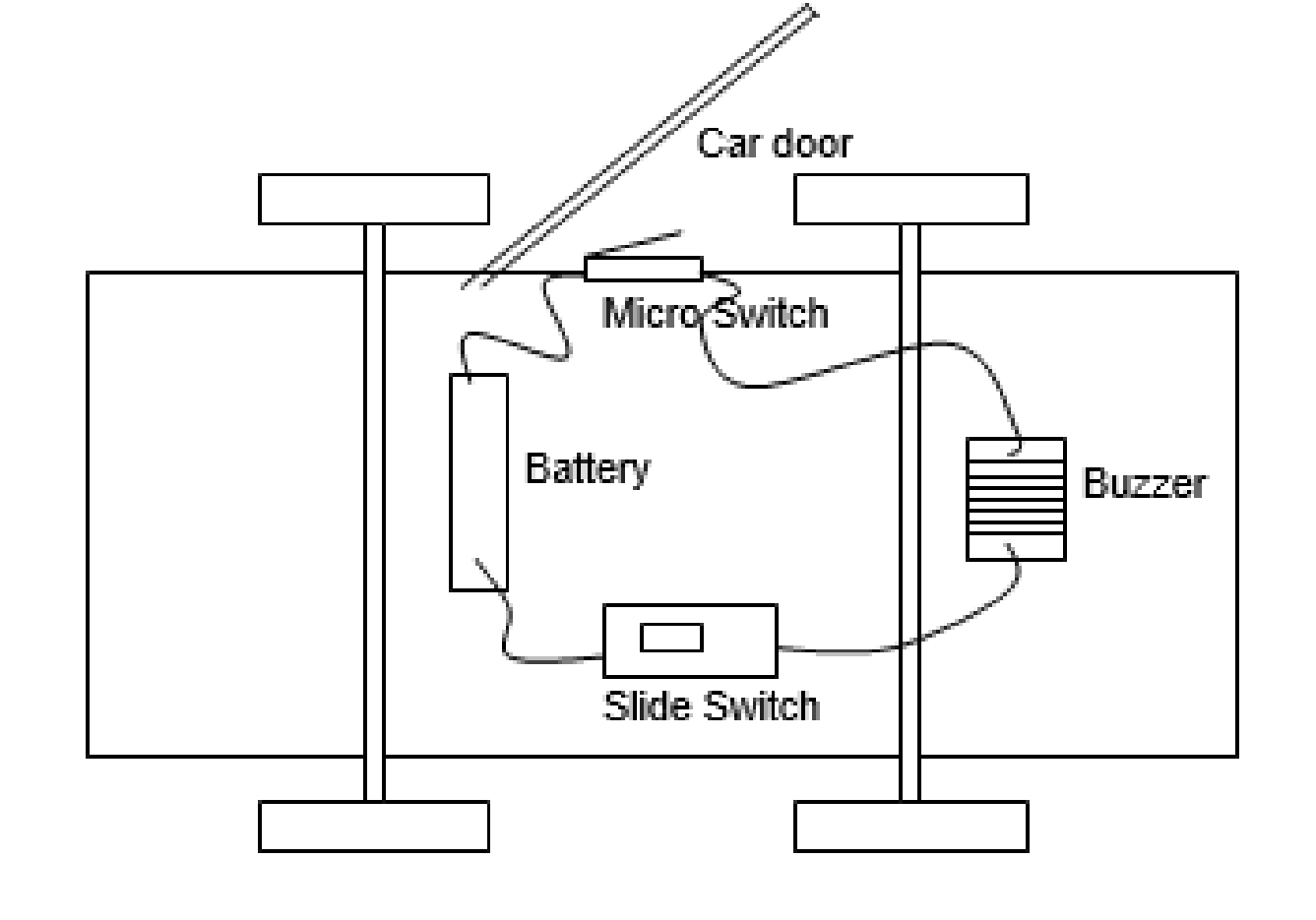
you do

Complete for your group on the sheet.

Draw your completed electrical circuit and label the components:

I do

Below is a plan view of the base of your car. Add on to this a detailed drawing of your alarm system. Label your drawing to show how the alarm will work, and how the circuit will fit into the car.



you do

Complete for your group on the sheet.

Below is a plan view of the base of your car. Add on to this a detailed drawing of your alarm system. Label your drawing to show how the alarm will work, and how the circuit will fit into the car.

